

## WHAT IS CLAIMED IS:

A device for treating wafers with a plasma jet, comprising a plasma jet generator; gas supplying means; a set of holders for wafers to be treated; said holders having a drive for effecting angular displacement thereof and facing a generator plasma jet; each of the holders being made in the form of a horizontal platform to rotate about the axis passing through geometric center thereof and being perpendicular to a plane of said platform; said plasma jet and wafer holder having the possibility to be displaced with respect to each other in the direction of at least one axis of coordinates and may be in or out of contact with each other, characterized in that it additionally comprises a manipulator; storage devices for the wafers to be treated; and a closed chamber having a gas exchange system with the wafer holders and a plasma jet generator located inside said chamber such that a plasma jet is directed from bottom upwards in respect of a plane of locating horizontal platforms of said wafer holders; said closed chamber is provided with a window in which a movable shutter is mounted; said manipulator is located to contact with said storage devices directly and with said wafer holder indirectly, through the chamber window; each of the wafer holders is provided with a limiter at the edges and has its horizontal platform provided with at least three vortex chambers and three tangential channels being perpendicular to a plane of said horizontal platform; each of said vortex chambers is provided

with an open portion located on a level end surface of the wafer holder, coupled through a tangential channel to said gas supplying means and located such that vortex flows formed afford holding of the platform near the holder and cooling of its individual areas to equalize, over the wafer surface, an amount of energy used for treating thereof; said limiters on the wafer holder platforms are fabricated as the rods mounted at an angle  $\alpha > 90^\circ$  to the plane of said horizontal platform of the wafer holder, and their length,  $l$ , is chosen such that

$$2l \sin(\alpha > 90^\circ) > \Delta$$

where  $\Delta$  denotes a maximum deviation from axisymmetric arrangement of the treated wafers in said storage devices.

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